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Jul 11, 2000

DERWENT-ACC-NO: 2000-495590

DERWENT-WEEK: 200132

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TITLE: Composition of martensitic stainless steel for crude oil pipelines of oil wells, includes specified weights of carbon, silicon, manganese, phosphorous, chromium, molybdenum, nickel, copper, tungsten with iron

PATENT-ASSIGNEE:

ASSIGNEE

CODE

SUMITOMO METAL IND LTD

SUMQ

PRIORITY-DATA: 1998JP-0364923 (December 22, 1998)

PATENT-FAMILY:

| PUB-NO          | PUB-DATE      | LANGUAGE | PAGES | MAIN-IPC   |
|-----------------|---------------|----------|-------|------------|
| JP 2000192196 A | July 11, 2000 |          | 007   | C22C038/00 |

APPLICATION-DATA:

| PUB-NO        | APPL-DATE         | APPL-NO        | DESCRIPTOR |
|---------------|-------------------|----------------|------------|
| JP2000192196A | December 22, 1998 | 1998JP-0364923 |            |

INT-CL (IPC): C22 C 38/00; C22 C 38/58

ABSTRACTED-PUB-NO: JP2000192196A

BASIC-ABSTRACT:

NOVELTY - Martensitic stainless steel consists of 0.001-0.5 wt% of C, 0.5-1 wt% of Si, 0.05-2 wt% of Mn, 0.025 wt% or less of P, 0.1 wt% or less of S, 9-14 wt% of Cr, 3.1-7 wt% of Mo, 1-8 wt% of Ni, 0.5-7 wt% of Co, 0.001-0.1 wt% of Al, 0.05 wt% or less of N, 0.1 wt% or less of O2, 0-5 wt% each of Cu and W and the remaining of iron and unavoidable impurities.

USE - For crude oil pipelines of oil wells.

ADVANTAGE - The steel has excellent hydrogen sulfide and carbon dioxide corrosion resistance, high strength and toughness.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: COMPOSITION MARTENSITE STAINLESS STEEL CRUDE OIL PIPE OIL WELL SPECIFIED WEIGHT CARBON SILICON MANGANESE PHOSPHOROUS CHROMIUM MOLYBDENUM NICKEL COPPER TUNGSTEN IRON

DERWENT-CLASS: H01 H03 M27

CPI-CODES: H01-C01; H03-B; M27-A04; M27-A04A; M27-A04C; M27-A04M; M27-A04N; M27-A04S;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1666U; 1669U ; 1734U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-148961

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File: JPAB

Sep 30, 1997

PUB-NO: JP409256115A  
DOCUMENT-IDENTIFIER: JP 09256115 A  
TITLE: MARTENSITIC STAINLESS STEEL, EXCELLENT IN SOUR RESISTANCE AND HAVING SUPERIOR WELDABILITY, AND ITS PRODUCTION

PUBN-DATE: September 30, 1997

## INVENTOR-INFORMATION:

NAME

COUNTRY

ASAHI, HITOSHI

TAMEHIRO, HIROSHI

MURAKI, TARO

SHIGESATO, GENICHI

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

NIPPON STEEL CORP

APPL-NO: JP08061366

APPL-DATE: March 18, 1996

INT-CL (IPC): C22 C 38/00; C21 D 8/02; C22 C 38/44; C22 C 38/50

## ABSTRACT:

PROBLEM TO BE SOLVED: To provide a martensitic stainless steel, having a strength equivalent to API X80 or below and excellent in CO2 corrosion resistance, SSC resistance, and weldability, and its production.

SOLUTION: This steel has a composition consisting of, by weight, &le;0.035% C, &le;0.50% Si, 0.1-1.5% Mn, &le;0.03% P, &le;0.005% S, 9-13% Cr, 1.5-6% Ni, 0.3-1.8% Cu, 1.5-2.5% Mo, &le;0.06% Al, &le;0.02% N, and the balance essentially Fe and having relations satisfying inequality  $40C+34N+0.3Cu+Ni-1.1Cr-1.8Mo \geq -10.5$  among the components. Further, this steel has a structure composed essentially of martensitic structure and containing retained austenite phase by &ge;10%. At the time of its production, two-stage heat treatment is performed. By this method, the martensitic stainless steel having excellent characteristics in a weld heat-affected zone and corrosion resistance, which cannot possibly be obtained in the case of the conventional steel, can be obtained.

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| <u>L4</u> | L1 OR L2 OR L3   | 638 | <u>L4</u> |
| <u>L3</u> | ((420/104  420/105  420/106  420/107  420/108  420/109  420/110  420/111  420/112  420/113  420/114 )!.COR. )  | 350 | <u>L3</u> |
| <u>L2</u> | ((420/89  420/90  420/91  420/92 )!.COR. )   | 148 | <u>L2</u> |
| <u>L1</u> | ((420/36  420/37  420/38  420/39 )!.COR. )   | 140 | <u>L1</u> |

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| <u>L3</u> | L2 AND STEEL  | 1387 | <u>L3</u> |
| <u>L2</u> | L1 NOT ((NIOBIUM OR NB OR NB:) OR (TITANIUM OR TI OR TI:) OR (TANTALUM OR TA OR TA:))   | 2342 | <u>L2</u> |
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| <u>L1</u> | AND (CHROMIUM OR CR OR CR:) AND (NICKEL OR NI OR<br>NI:) AND (COBALT OR CO OR CO:) AND (IRON OR FE OR<br>FE:) | 2121 | <u>L1</u> |

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